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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: YENNY VIRGINIA ROJAS  
ET AL.

Docket No.: 00-340

Serial No.: 09/941,508

Examiner :

Filed : August 28, 2001

Art Unit : 1712

For : POLYMER-ENHANCED FOAMABLE  
DRILLING FLUID

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INFORMATION DISCLOSURE STATEMENT

Hon. Commissioner of Patents & Trademarks  
United States Patent & Trademark Office  
Washington, D.C. 20231

Dear Sir:

In accordance with the requirements of 37 CFR 1.97 and 1.98, Applicants hereby submit the documents listed hereinbelow, copies enclosed which were cited in the European Search Report.

- (1) International Publication No. WO 95/14066 entitled  
METHOD OF TREATING SHALE AND CLAY IN HYDROCARBON  
FORMATION DRILLING, By Smith et al., published May 26,  
1995. This document discloses swelling and migration  
of subterranean clay which is inhibited during  
drilling for and stimulation of the production of  
hydrocarbon fluids, and preparation therefor, by  
treating said formations with a copolymer of about 5 %

to about 50 % of an anionic monomer such as acrylic acid, methacrylic acid, or 2-acrylamido-2-methyl propane sulfonic acid and the balance a cationic monomer selected from dimethyl diallyl ammonium chloride, or acryloxy or methacryloxy ethyl, propyl or 3-methyl butyl trimethyl ammonium chlorides or methosulfates. Permeability damage to the formation is reduced in the presence of the copolymer; it is particularly effective in spite of the presence of a foaming agent.

- (2) U.S. Patent No. 6,172,010 entitled WATER-BASED FOAMING COMPOSITION-METHOD FOR MAKING SAME, By Argillier et al., patented January 9, 2001. This patent discloses a water based foaming composition and the method of making it. The composition is optimized in that it contains a surfactant specifically selected according to the polymer also present in the composition. The surfactant and the polymer are selected so that they are oppositely charged. The invention is very useful in drilling or treating wells.

- (3) International Publication No. WO 00/51922 entitled TRANSPORT OF SOLID PARTICULATES, By Gay et al.,

published September 8, 2000. This document discloses a method which is provided for incorporating a foaming agent into mixtures of particulates and then forming a foam within the mixture to increase the flowability of the particulates. A method is also provided for excavating solid particulates, incorporating a foaming agent into mixtures of solid particulates, and then forming a foam within the mixture to increase the flowability of the particulates. The particulates can be transported through pipelines or boreholes. Examples of particulates include, but are not limited to, mine tailings, ores, sand, coal, soils, clays, silts, aggregates, and mixtures thereof.

- (4) U.S. Patent No. 5,513,712 entitled POLYMER ENHANCED FOAM DRILLING FLUID, By Sydansk, patented May 7, 1996. This patent discloses a process employing a polymer enhanced foam in a wellbore as a drilling fluid during a wellbore drilling operation. The polymer enhanced foam is formed from an uncrosslinked acrylamide polymer, a surfactant, an aqueous solvent, and an added gas.

- (5) European Patent No. 0 761 798 entitled FOAMABLE DRILLING FLUID, By Totten et al., published March 12, 1997. This patent discloses a foamable drilling fluid for use in well operations such as deep water offshore drilling where risers are not employed in returning the fluid to the surface mud pit comprising a prehydrated clay such as bentonite; water; a surfactant selected from  $\alpha$ -olefinsulfonates, alkylpolyglycosides, alcohol sulfates and salts of ethoxylated alcohol sulfates: and a stabilizing surfactant such as cocoamine betaine. The drilling fluid can also contain a hydraulic material selected from Portland cement, siliceous material like fumed silica, blast furnace slag and pozzolans such as fly ash.
- (6) U.S. Patent No. 4,599,188 entitled FOAMING SURFACTANT COMPOSITIONS, By Llenado, patented July 8, 1986. This patent discloses foaming compositions containing an alkylpolysaccharide surfactant and a sulfate, sulfonate and/or carboxylate cosurfactant with an amide and/or amine oxide auxiliary foam booster.

The undersigned submits the above-identified references for independent consideration by the Examiner and does not make any admission that these references are or are not material to the present invention or that these references are or are not prior art with respect to the present invention.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C., 20231  
on February 4, 2003  
(Date of Deposit)  
Rachel Piscitelli  
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Respectfully submitted,

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